

## Carbon Fiber Reinforced, Zero CME Composites, Phase I

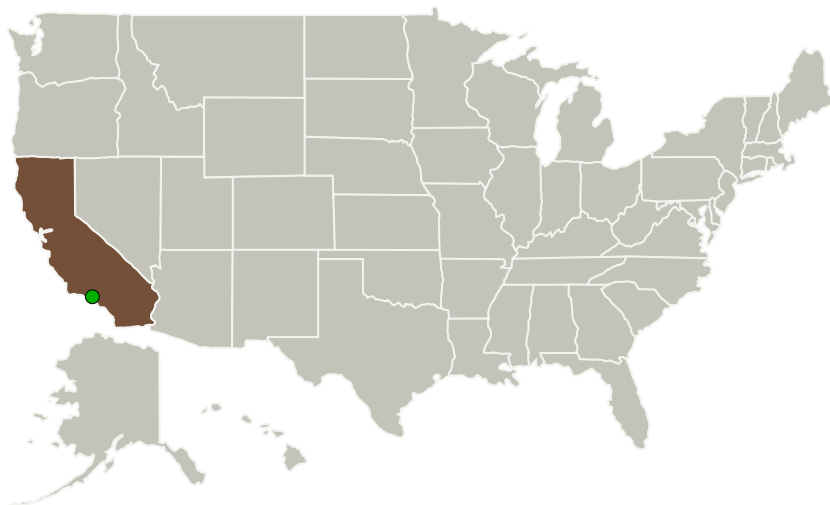
Completed Technology Project (2011 - 2011)




## Project Introduction

Technical Abstract: This project proposes to develop moisture insensitive, high performance, carbon fiber laminates for future missions. Current space-qualified resins swell as moisture is absorbed. Eliminating moisture induced swelling (i.e. strain) will permit reallocation of telescope error budget and simplify integration and test activities. A relatively simple laminate production process is envisioned where eutectic alloy will replace traditional polymer resin matrix. In terms of strain, eutectic alloys are insensitive to moisture absorption and possess tailorable properties. Key fiber and alloy adjustments will achieve the best blend between laminate moisture insensitivity, thermal and structural properties.

## Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Vanguard Composites Group, Inc.	Lead Organization	Industry	San Diego, California
 Jet Propulsion Laboratory(JPL)	Supporting Organization	NASA Center	Pasadena, California



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### Primary U.S. Work Locations

California

### Project Transitions



**February 2011:** Project Start



**September 2011:** Closed out

#### Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/138026>)

### Organizational Responsibility

#### Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

#### Lead Organization:

Vanguard Composites Group, Inc.

#### Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

### Project Management

#### Program Director:

Jason L Kessler

#### Program Manager:

Carlos Torrez

#### Principal Investigator:

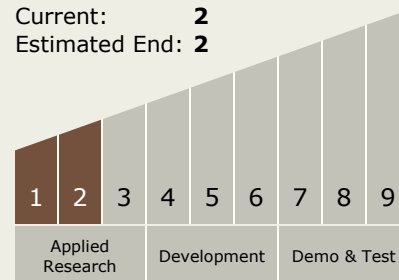
Eldon Kasl

### Technology Maturity (TRL)

Start: **1**

Current: **2**

Estimated End: **2**



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## Technology Areas

### Primary:

- TX08 Sensors and Instruments
  - └ TX08.1 Remote Sensing Instruments/Sensors
    - └ TX08.1.3 Optical Components

## Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System